Overview

Hardware Installation

BIOS Setup

IWILL
DN800-SLI Motherboard
User's Manual

FB23634600

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All product specifications are subject to change without prior notice. The actual specifications will be according to the actual product.

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Chapter 1 Overview

DN800-SLI Package Content

1. DN800-SLI Motherboard
   - The DN800-SLI mainboard
2. Three jumper caps
   - Extra caps in case original caps get lost
3. One Power Installation CD
   - Includes support software, drivers and bundled software utilities.
4. Rear panel I/O shield
   - Covers the area around the rear panel I/O ports when the board is installed in the system housing.
5. Two sets of SATA cables
   - Connector cables for onboard SATA connectors.
6. Two ATA-66/100 IDE cables
   - Connects IDE devices to one of the onboard IDE connectors.
7. One floppy disk drive cable
   - Connects floppy disk drives to the onboard floppy disk connector.
8. Two Hat Springs for CPU cooler
   - Sustain and connect between CPU cooler and chassis
9. One iron backplate
   - The iron backplate connects the motherboard and chassis, and sustain the mass of CPU heatsink.
10. Two CPU plastic backplates
    - It can fix the third party CPU heatsink. Please refer to Chapter 3 for the detail information.
11. Two heatsink retention modules
    - It can buckle up the CPU heatsink. Please also refer to Chapter 3 for the detail information.

Safety Notice

You must have enough system integration knowledge before the installation，and please carefully read our instruction while you are installing the system.

GENERAL SAFETY PRECAUTIONS

- Keep the area around the Server clean and free of clutter.
- Servers weigh a lot. When lifting the system, two people should lift slowly from opposite ends with their feet spread out to distribute the weight. Always keep your back straight and lift with your legs.
- Place the chassis top cover and any system components that have been removed away from the system or on a table so that they won't accidentally be stepped on.
- While working on the system, do not wear loose items such as neckties and unbuttoned shirtsleeves. They can come into contact with electrical circuits or get pulled into a cooling fan.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors and can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.

ESD PRECAUTIONS

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. The following measures are generally sufficient to neutralize this difference before contact is made to protect your equipment from ESD:

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing the board from the antistatic

bag.

- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- After accessing the inside of the system, close the system back up and secure it to the rack unit with the retention screws after ensuring that all connections have been made.

OPERATING PRECAUTIONS

- **Check package contents**
- **Missing or damaging accessories**
  Please contact your vendor immediately
- **Motherboard damage**
  Please contact your vendor immediately
- **Prepare minimum system components**
  ✧Intel Xeon @800MHz FSB Processor
  ✧At least one Registered DDR2 memory module
  ✧At least one SATA or IDE HDD
  ✧EPS12V Power Supply with 460W or above

Getting Help

If a problem arises with your system during Installation or Operation, you should first ask your dealer for help as they have most likely configured your system. They generally have the best grasp of your issues and the fastest response for your symptoms. If your dealer is near your location, it is recommended that you first bring your system to them to have it serviced instead of attempting to solve the problem yourself.

If those options don't work for you, IWILL also provides some helpful resources to help you.

1. Visit IWILL® website at **http://www.iwill.net** and navigate to this product's page which contain links to product updates such as Jumper settings or BIOS updates.
2. The FAQ (Frequently Asked Questions) sections in the IWILL website are often helpful since other users often have the same questions.
3. Email us at: **support@iwill.net** and we will try to answer your questions within 5 business days.

DN800-SLI Specifications

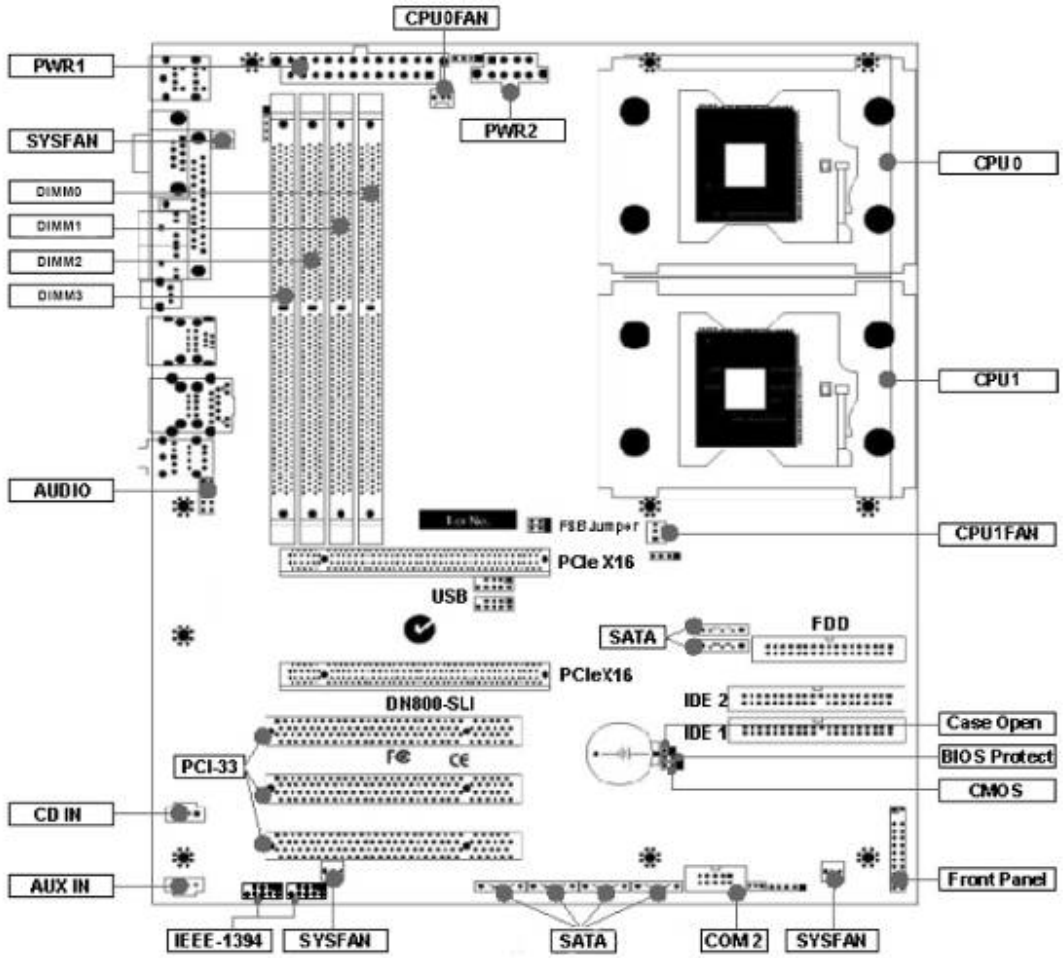
Processor	● Supports two Intel Xeon processors over an 800 MHz system bus ● 1 MB L2 up to 3.60 GHz ● Hyper-Threading technology ● Intel Extended Memory 64 Technology ● Demand Based Switching with Enhanced Intel SpeedStep Technology ● Streaming SIMD Extensions 3 (SSE3)
Chipset	● Intel® E7525 Memory Controller Hub (MCH) chipset ● Intel® 6300ESB I/O Controller Hub ● Silicon Image 3114 SATA Controller ● Winbond W83627 THF ● Analog Device AD1980 Audio codec
Memory	● 4 DIMMs for 240-pin DDR2 DIMM sockets ● Dual Channel registered with ECC memory ONLY ● Total system memory size of up to 8GB ● Support 128MB/256MB/512MB/1GB/2GB memory modules ● Offers a maximum memory bandwidth of 6.4 GB/second
Audio	● AC '97 2.3 Compatible features ● Integrated Stereo Headphone Amplifier ● 6 DAC Channels for 5.1 Surround ● S/PDIF output
IEEE-1394	● TI TSB43AB23 IEEE-1394 controller ● 3 x 1394a ports(1 x external port, 2 x internal connectors) ● Fully support IEEE Std 1394a-2000 ● Cable port data rate of 100Mbs, 200Mbs, and 400Mbs
Serial ATA	● 4 Serial ATA ports supported by Silicon Image with RAID 0, 1, 10 ● 2 Serial ATA ports supported by 6300ESB with RAID 0, 1 ● Support Adaptec Host RAID ● Support hot swap

USB	● Integrated NEC with four(4) USB 2.0 ports at the rear panel ● Two internal connectors for four front panel USB 2.0 ports
On-Board LAN	● Intel Gigabit Ethernet controller ● Support PME
Expansion Slots	● Dual PCI Express x16 slot for fully supporting SLI technology ● Three PCI 32/33 slots ● PCI 2.2 Compliant
Internal I/O connector	● 1 x 34-pin Floppy Connector ● 4-pin CD-In and Aux-In audio input connector
IDE Bus	● 2x 40-pin IDE connectors, supports up to four (4) Enhanced IDE devices ● Dual Channel Master Mode ● Ultra DMA 100/66/33
External I/O	● PS/2 mouse and keyboard connectors ● 1 x UART 16550 serial port (COM1) ● 1 x 25-pin parallel port with ECP/EPP support ● 4 x USB 2.0 ports ● 1 x Gigabit Ethernet LAN RJ-45 port ● 1 x IEEE-1394 port ● 1 x S/PDIF Out ● Rear Out and Center Out ● Audio Phone Jacks - Line Out, Mic In, Line-In.
Internal I/O	● 1 x UART by 9-pin header ● 1 x Smbus connector ● 1 x WOL connector ● 1 x IR connector
System BIOS	● AMI BIOS ● Flash write protection by BIOS and one jumper ● ACPI 1.1 ● APM 1.2 ● Support ACPI S1 ● Support ASF2.0

System Management	● Hardware Monitor control by ADT-7460 ● Fan speed control method: DC FAN ● Support AC power failure
Form Factor	● ATX form factor ● 12"x 10" ● 8 layers design ● EPS 12V power connectors (24 pin+8 pin)

Chapter 2 Components and Jumpers

Motherboard Layout



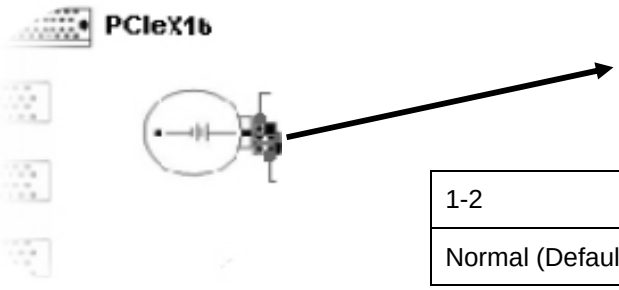
Components List

CPU0; CPU1	Intel Xeon Socket 604 Processor
Primary; Secondary	IDE Driver Connectors
Floppy	Floppy Disk Driver Connector
PCIe Slot	PCI-Express x16 Slots
PCI-33	PCI 32/33 Slots
DIMM0~3	Memory Socket for DDR2 Memory
JP1	Clear CMOS Jumper
JP3, JP3A	FSB Jumper
JP16	BIOS Protect Jumper
J32	COM2 Port
J34, J34A	USB 2.0 Headers
J42	Case Open Pin Header
J43	Front Panel Connector
J45	IrDA Connector
J46	WOL Connector
J48	SMBus Connector
J53	AUX-IN
J54	CD-IN
J57B	Audio Jumper
J58, J58A, J58B, J58C, J58D, J58E	Serial ATA Connectors
J60A, J60B	IEEE-1394 Headers

Jumper Setting

JP1: Clear CMOS Header

The onboard button cell battery powers the CMOS RAM. It contains all the BIOS setup information. Keep the jumper connected to pins 1-2 (Default) to retain the RTC data as shown below.



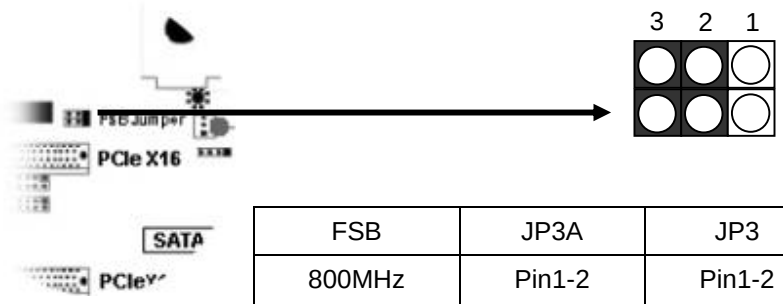
1-2	2-3
Normal (Default)	Clear CMOS

Under certain circumstances, you will need to reset system settings. Follow these instructions to clear the CMOS RTC data:

1. Turn off the computer.
2. Short pins 2 and 3 with a jumper for a few seconds.
3. Replace the jumper to pins 1 and 2.
4. Turn on your computer by pressing the power-on button.
5. Hold down <F2> during boot and select either <Load Optimal Defaults> or <Load Failsafe Defaults> in the "Exit" section. Then go through the BIOS setup to re-enter user preferences.

JP3; JB3A: FSB Jumper

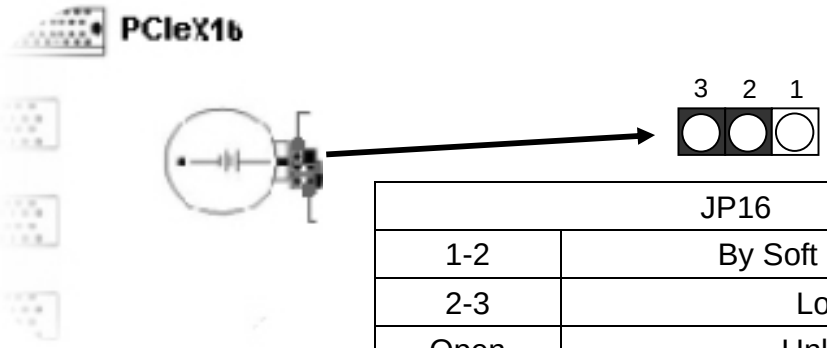
This header lets you set your memory speed. Depend on the memory you choose, please adjust this jumper in order to optimize your memory utilize.



FSB	JP3A	JP3	MEMORY
800MHz (Default)	Pin1-2	Pin1-2	DDRII-400

JP16: BIOS Protection Jumper

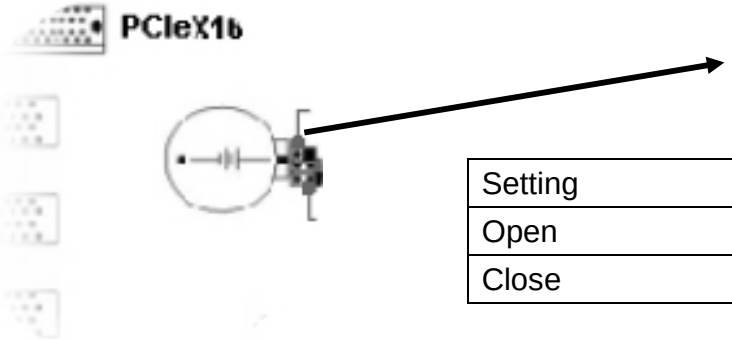
This jumper protects the system from unnecessary updating or flashing of the BIOS. It secures the BIOS therefore prevents accidental overwriting of the data stored in flash memory.



JP16	
1-2	By Soft (default)
2-3	Lock
Open	Unlock

J42 Case Open Pin Header

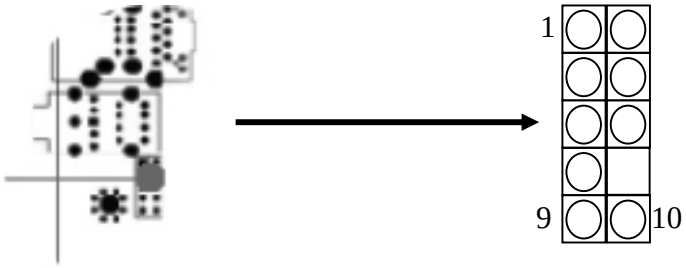
Case Open is a security function. This can detect whether the chassis (case) had been opened or not. If the case had been opened, the open record would show on the screen until you delete this message.



Setting	J42
Open	Disable
Close	Enable

J57: Front Audio Jumper

This jumper allows users to switch audio function to the front panel if front panel is installed.



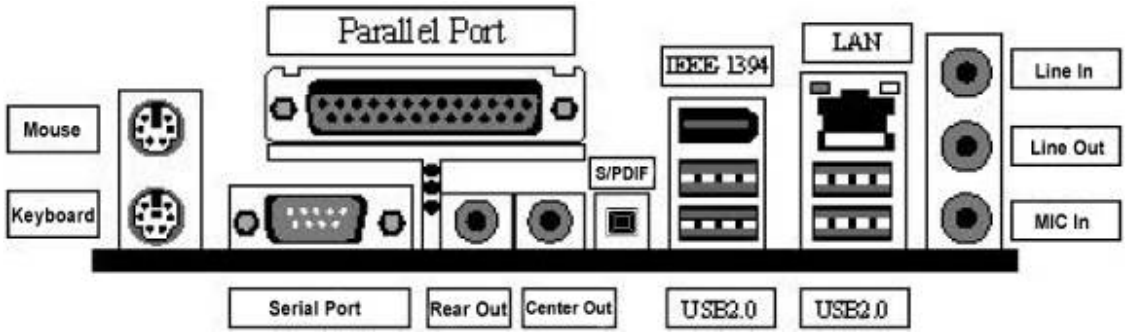
J57	W/O Front Audio Connector	With Front Audio Connector
5-6	SHORT	OPEN
9-10	SHORT	OPEN

Pin Assignment:

Pin 1 Mic-In L	Pin 5&6 Line-Out R
Pin 2 GND	Pin 7 Audio VERF
Pin 3 Mic-In R	Pin 8 NC KEY
Pin 4 VCC	Pin 9-10 Line-Out L

Rear Panel I/O Ports

This is an illustration of the Mainboard rear I/O port array



PS/2 Mouse Connector (6-pin Female)

The system will direct IRQ12 to the PS/2 mouse if one is detected. If no mouse is detected, IRQ12 will be free for expansion cards to use.

PS/2 Keyboard Connector (6-pin Female)

This connection is for standard keyboards using a PS/2 (mini DIN) plug. This connector will not accept standard AT size (large DIN) keyboard plugs. You may need a DIN to mini DIN adapter for standard AT keyboards.

Parallel Printer Connector (25-pin Female)

You can enable the parallel port and choose an IRQ through the BIOS. You can choose between ECP and EPP support through the BIOS setup.

Serial Port (COM1) Connector (9-pin Male)

The COM1 serial port can be used for pointing devices or other serial devices.

Universal Serial Bus Ports (4-pin Female)

Four onboard external USB 2.0 ports are available for connecting USB devices. Refer to USB 2.0 Ports & Header for more information.

IEEE 1394/ FireWire Connector (6-pin Male)

You have one (1) onboard IEEE 1394 connector port for connecting FireWire devices. Refer to IEEE 1394 Ports & Header for more information.

Onboard LAN Port (RJ-45)

This Mainboard uses Intel Gigabit Ethernet Controller. Refer to the Onboard LAN User Guide for further information.

Audio Jacks (Phone Jacks)

The interface is supported by the onboard Analog Device AD1980. It has 3 phone jacks for Line-Out, Microphone In, and Line-In.

S/PDIF Port

DN800-SLI also provides the S/PDIF out, Rear Out, and Center Out function.

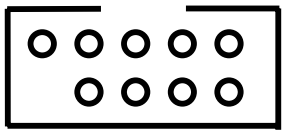
Additional I/O Connectors

The Mainboard also contains connectors for adding additional ports and devices to the Mainboard.

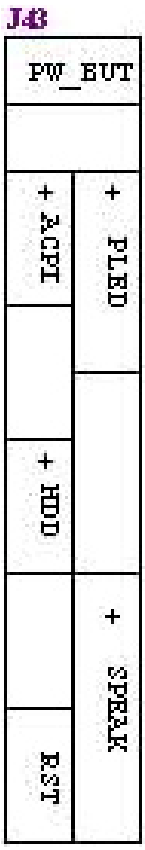
J32: COM2 Header

The COM2 Port Bracket Connector lets you add an additional serial port, to which you can connect peripherals such as serial modems and pointing devices.

Pin1	DCD#	Pin2	RXD
Pin3	TXD	Pin4	DTR#
Pin5	CON	Pin6	DSR#
Pin7	RTS#	Pin8	CTS#
Pin9	RI#	Pin10	NC



J43: Front Panel Switch Header



Reset Switch (2-pin RST)

This 2-pin connector connects to the chassis-mounted reset switch for rebooting your computer without turning your power switch off and on. This is a preferred method of rebooting your system to prolong the life of your system's power supply.

Hard Disk Activity LED (2-pin HDD_LED)

This connector supplies power to the chassis's HDD/IDE activity LED. Read and Write activity by devices connected to the Primary or Secondary IDE connectors will cause the front panel LED to light up.

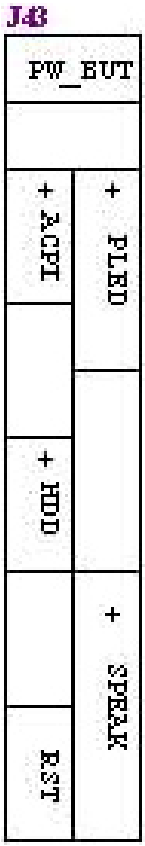
ACPI LED

ACPI function allows the system to enter or resume from the Suspend mode. If your system chassis does not have this button,

the same function may be performed from your OS; if it is supported.

Power On Switch

This switch connects to the system's Power button allowing you to power on and off the system. You can configure the system to use the keyboard or mouse to power-on the system. You can also configure the system to respond to power restoration after a power outage occurs. These functions can be configured by making appropriate settings in the Integrated Peripherals submenu ("Super IO Device" field) of the BIOS.



Speaker Connector

This connects to the PC speaker installed in the system chassis.

Power LED Connector

This connector connects to the system's Power LED. When the system's power is on, this LED will light.

J45: IrDA Connector

Function

The IrDA connector is for wireless connectivity between your computer and peripheral devices. The IRDA (Infrared Data Association) specification supports data transfers of 115K baud at a distance of 1 meter. It supports both IrDA and ASKIR infrared port modules.

Connecting the IrDA Cable

To use the IrDA function, follow the steps below.

1. Connect your IrDA cable to connector J45.
2. Set the "UART Mode Select" field to the type of IrDA standard supported by your IrDA peripheral/device. For better transmission of data, your IrDA peripheral device must be within a 30^{o} angle and within a distance of 1 meter. You may not use IrDA and the COM 2 serial port at the same time. If you are using the COM 2 serial port, make sure to set the "UART Mode Select" field to Normal.
3. Set the "RxD, TxD Active", "IR Transmission Delay", "UR2 Duplex Mode" and "Use IR Pins" fields appropriately.

Driver Installation

You may need to install the proper drivers in your operating system to use the IrDA function. Refer to your operating system's manual or documentation for more information.

J46: WOL Connector

Function

This connector lets you attach a managed network adapter to the motherboard via a Wake-on-LAN cable. When the system is off, the managed network adapter uses an alternate power source to monitor the network. If it receives a wake-up packet from the server the system is remotely and automatically powered up.

J48: SMBus Connector

Function

The SMBus (System Management Bus) connector is used to connect SMBus devices. It is a multiple device bus that allows multiple chips to connect to the same bus and enable each one to act as a master by initiating data transfer.

Serial ATA Connector

J58, J58A Serial ATA Connectors

DN800-SLI supports up to 6 SATA devices each with data transfer rates of 150MB/s. Two Serial ATA ports are supported by Intel 6300ESB with RAID 0 and 1. RAID stands for "Redundant Array of Independent Devices" and provides different levels of safety, redundancy and performance.

This Mainboard features two Serial ATA ports for two Serial ATA devices.

Serial ATA Drive Connectors

SerialATAPinAssignments	
Pin	Description
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

J58B, J58C, J58D, J58E Serial ATA Connectors

SILICON IMAGE CHIPSET AND SERIAL ATA

The Serial version of this Mainboard is equipped with an integrated Silicon Image Sil3114 Serial ATA chipset. This chipset supports up to 4 SATA devices at transfer rates of up to 150MB/s.

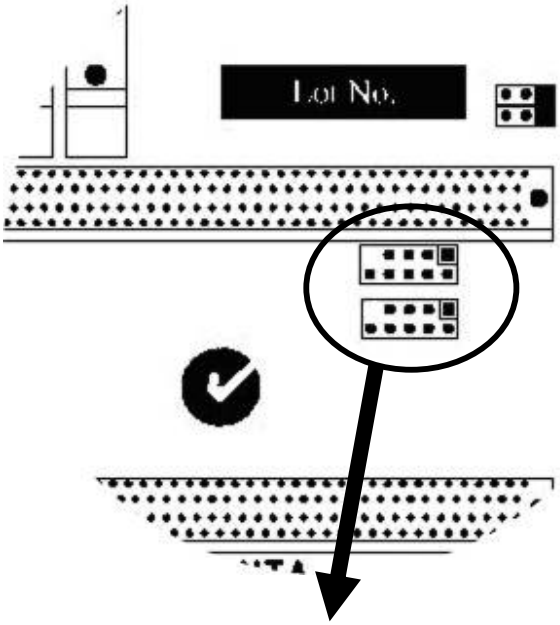
The Silicon Image Chipset also supports RAID configurations. RAID stands for "Redundant Array of Independent Devices" and provides different levels of safety, redundancy and performance. This chipset supports RAID 0, 1, and 10, which are defined as follows:

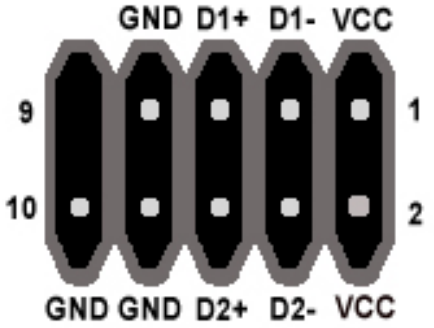
RAID Type	Description
RAID 0	Striping: high performance, designed to connect multiple drives to act as one
RAID 1	Mirroring: writes data to two drives at once in case one drive fails, the other one will be a complete replica and can continue on.
RAID 10	Combination of RAID 0 and 1: over 4 drives, The drives are split in half and striped together, and the 2 new striped drives are then mirrored.

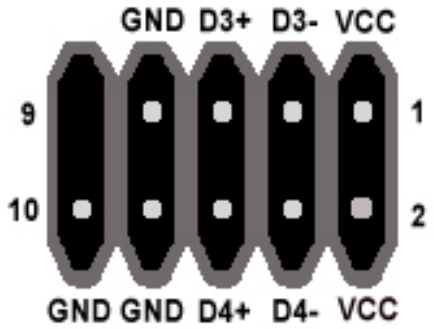
USB Header

J34, J34A: USB 2.0 PORTS AND HEADER

DN800-SLI supports eight USB 2.0 ports. Four USB 2.0 ports locate at the rear panel. They are supported by NEC chipset. Four USB 2.0 headers are for the front panel. USB 2.0 supports transfer rates of up to 480MB/s.

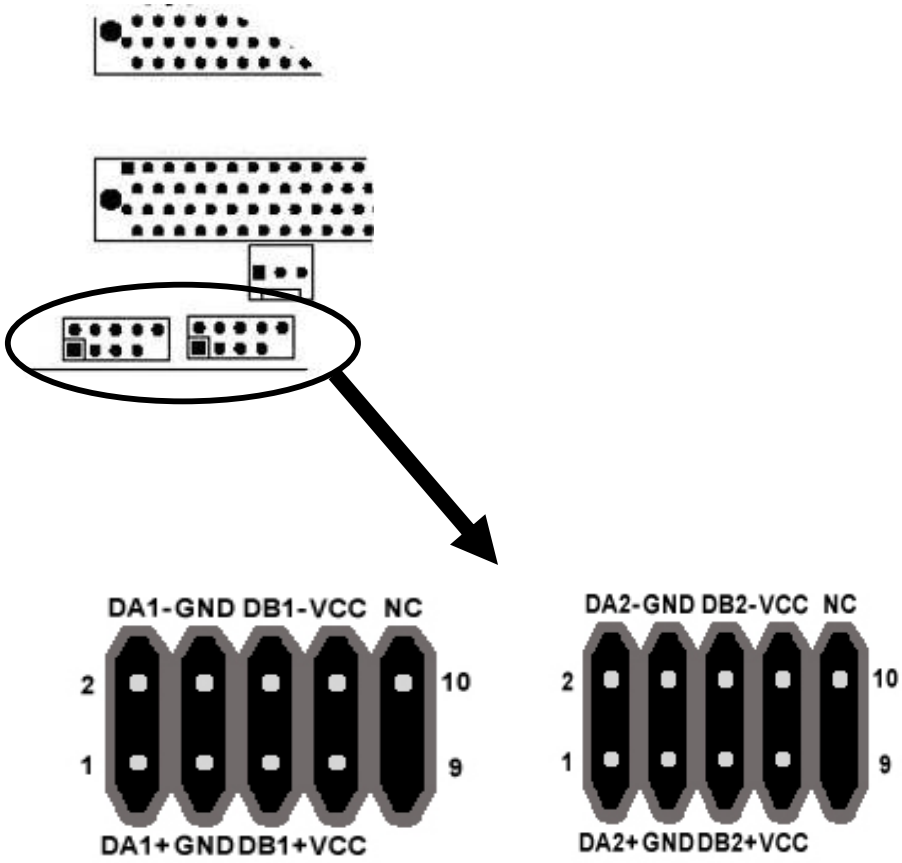






J60A, J60B: IEEE 1394 (FireWire) Header

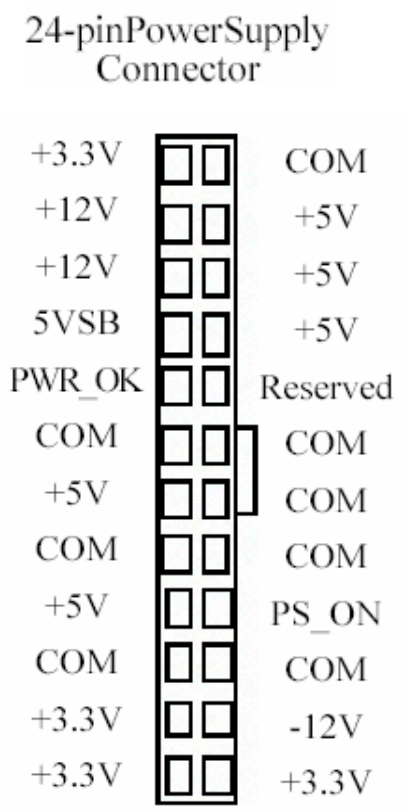
This Mainboard features an integrated Texas Instrument TSB43AB23 chip which supports three (3) IEEE 1394 (Firewire) ports. IEEE 1394 (Firewire) supports transfer rates of up to 400MB/s. One port is installed on the on-board I/O array, and two headers are for external installation.

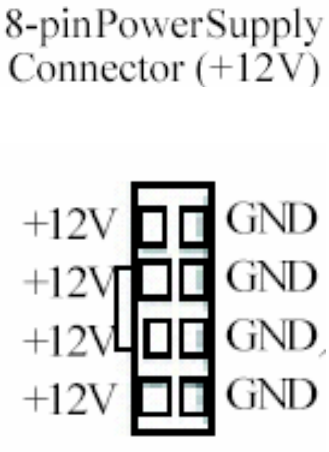


DN800-SLI Power Supply

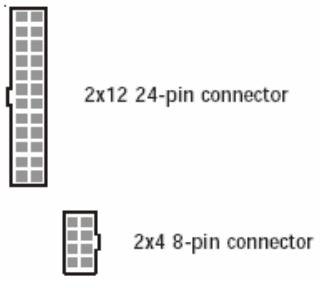
EPS12V POWER CONNECTORS

There are two power connectors on the motherboard of the required EPS 12V power supply. These are not standard ATX connectors. DN800-SLI needs a minimum 460-watt EPS 12V power supply that complies with the Intel Xeon processor power supply design guidelines. Find the proper orientation of the connectors and push down firmly to make sure that the pins are aligned (the connector will only insert properly when properly aligned). The 8-pin connector is a dedicated power connector to supply power for the CPUs. If you have any problem about how to choose a proper power supply, please see our Quality Vendor List to be your reference.





Power Connectors:
These are for the required EPS 12V power supply.



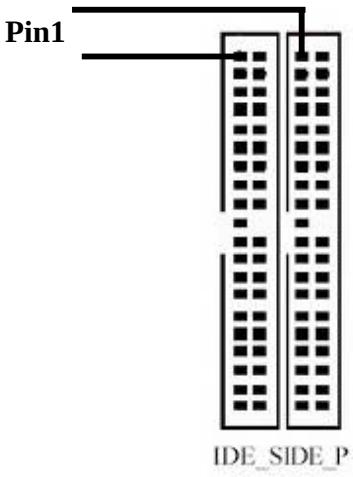
IDE and Floppy Connectors

PRIMARY IDE CONNECTORS

The two 40-pin IDE connectors (primary and secondary channels) support 80-conductor IDE ribbon cables. Connect the single connector end to the Mainboard. Then, connect the two connectors at the other end to your IDE device(s). If you connect two hard disks to the same cable, you must set the second drive as a Slave through its jumper settings. Refer to the IDE device's documentation for the specific jumper settings. (Pin 20 is removed to prevent the connector from being inserted in the wrong orientation when using ribbon cables with pin 20 plugged in). The BIOS supports Ultra DMA 33/66/100.

IMPORTANT

Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector. IDE ribbon cables must be less than 46 cm (18 inches) long, with the second drive connector no more than 15 cm (6 inches) away from the first connector.

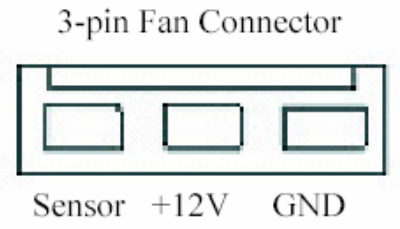


FLOPPY DISK DRIVE CONNECTOR

This 34-pin connector supports the standard floppy disk drive ribbon cable. Connect the single connector end to the Mainboard. Then, plug the other end of the ribbon into the floppy drive. Make sure you align the Pin 1 on the connector with the Pin 1 alignments on the Mainboard and the floppy drive.

CPU/ SYSTEM FAN CONNECTORS

There are five 3-pin fan connectors in the Mainboard. Two fans are used for CPU0 and CPU1; three fans are for system and back. These connectors support cooling fans of 500mA (6W) or less. All fan drive current minimum are must over 1.5V. Depending on the fan manufacturer, the wiring and plug may be different. Connect the fan's plug to the Mainboard with respect to the polarity of the fan connector.



WARNING

The CPU and/or motherboard will overheat if there is not enough airflow across the CPU and onboard heatsink. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are NOT jumpers; DO NOT place jumper caps over these pins.

Chapter 3 Hardware Installation

Motherboard Installation

This section explains the basic requirements for installing the motherboard in a system housing or "chassis". Since housing designs vary widely, you will need to consult the housing documentation for specific information.
To install the motherboard in the system housing, you will need to do the following:

- Install a rear panel I/O shield
- Attach the board to the housing
- Connect leads from the housing's front panel
- Connect other internal system components.

Motherboard Installation Procedure

The motherboard requires installing the supplied CPU Hat Spring to mount the heat sink retention mechanisms. Refer to the CPU Installation section in this chapter for details.

If the housing you are using normally stands vertically, place the open housing on its side before you start.

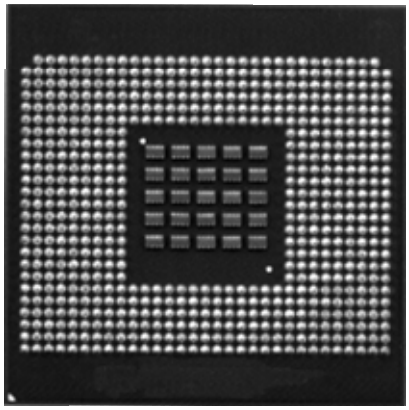
To install the motherboard, please follow the steps below.

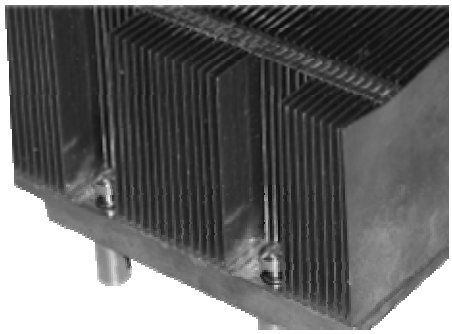
1. Review any instructions that came with the system housing and prepare the necessary mounting hardware that came with it.
2. Identify the mounting holes on the motherboard and confirm that the housing has standoffs that match them.
3. Install the rear panel I/O shield in the housing's I/O panel opening.
4. Place the motherboard in the housing and align the mounting holes to the standoffs of the housing's motherboard mounting plate. Make sure all of the rear I/O ports are properly aligned with the openings of the I/O panel.
5. Secure the motherboard to the housing by inserting mounting screws in all the holes.

Installing the CPU and Heatsink Procedures

IWILL DN800-SLI support Intel Xeon processors over an 800 MHz system bus. We only recommend using the Intel Original heatsink kit. CEK (Common Enabling Kit) is specially designed for the Intel latest Xeon. For installing CEK, please follow direction as below.

Intel® Xeon™ Processor with 90 nm process technology	**CEK (Common Enabling Kit)**

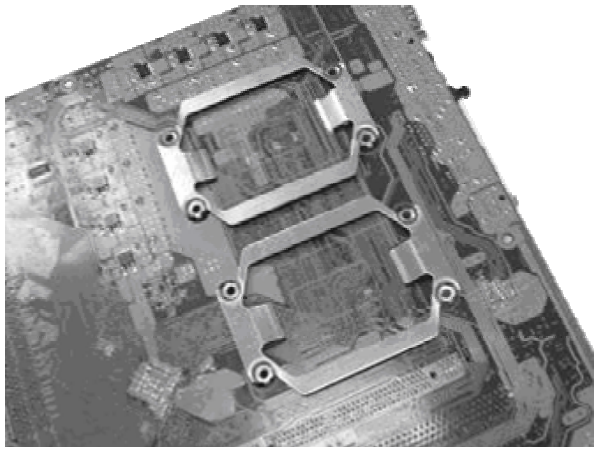




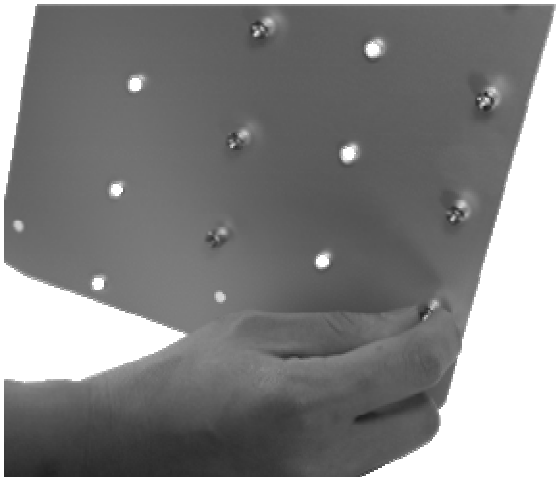
Important

DN800-SLI ONLY supports Intel Xeon at 800MHz processors. Please be aware that DO NOT install Xeon at 533MHz processors onto the DN800-SLI.

✓ **Step 1 -- Before you install the heatsink, please check whether the attached Hat Springs fasten well to the back of this motherboard or not.**

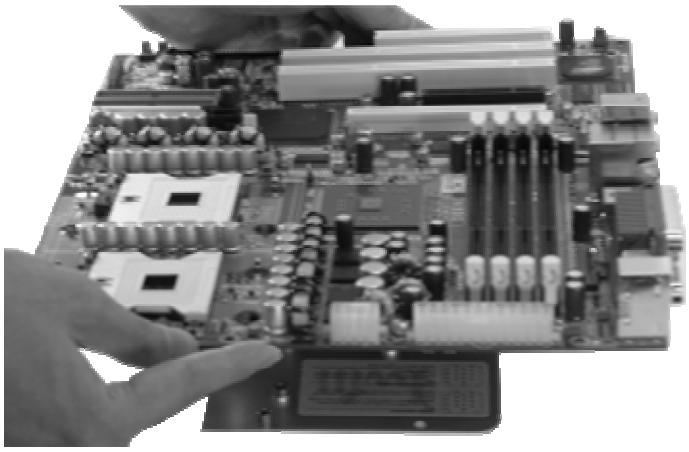


✓ **Step 2-- Position the attached silver standoffs for the special-designed iron plate.**



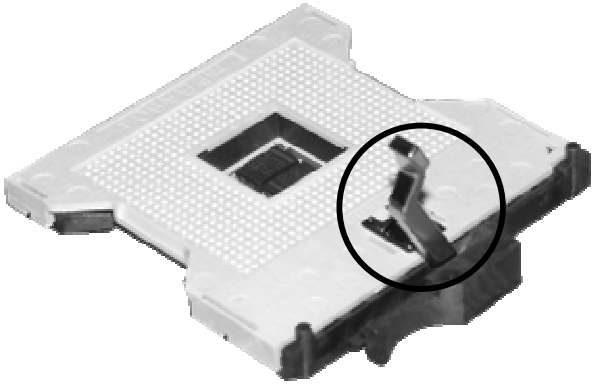
- ✓ **Step 3--- Screw this plate to the chassis you will use to install this motherboard. Please position the case mounting hole of this plate to the chassis, and use four copper standoffs to fix the iron-plate to the chassis. Match the rest screw holes and install the standoffs that come with the chassis.**

- ✓ **Step 4--- Please align the system board and backplate together and make sure matching the heatsink, system board, and backplate holes in the same position.**



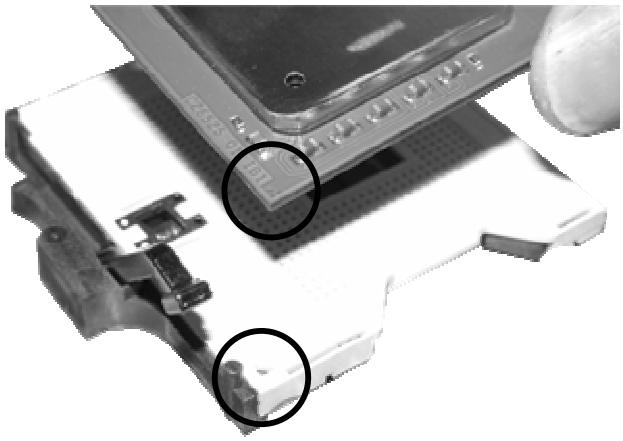
✓ **Step 5-- Raise the retaining lever of the processor locking mechanism to a perpendicular position.**

Raise the socket lever to the vertical position



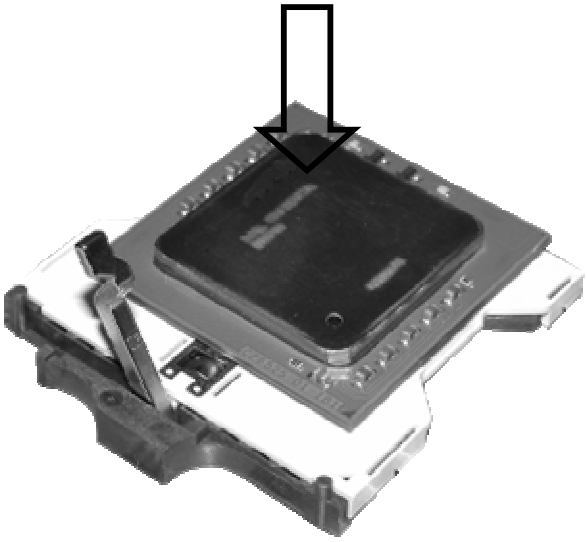
✓ **Step 6--Align the processor to the socket by matching the Pin 1 corner of the socket (marked with a triangle) to the Pin 1 corner on the Socket 604 (marked by a triangular hole in the Pin 1 corner).**

Align the Pin 1 corners



Step 7--Carefully insert the Xeon processor in the socket receptacles, taking care not to bend any pins.

Insert the processor

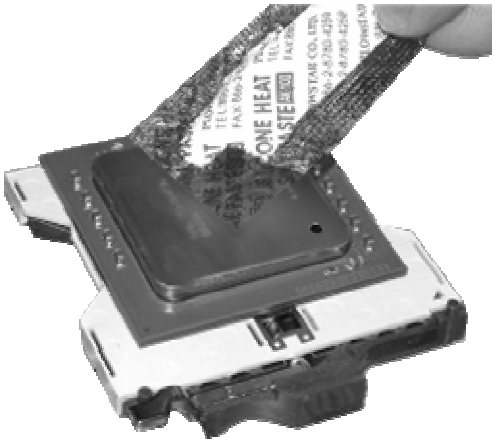


- ✓ **Step 8--Lower the locking mechanism's retaining lever and secure it in place to secure the processor in the socket. Grasp the processor by the edges and gently pull upwards to insure it is properly inserted. The processor shouldn't move.**

Secure the CPU retaining

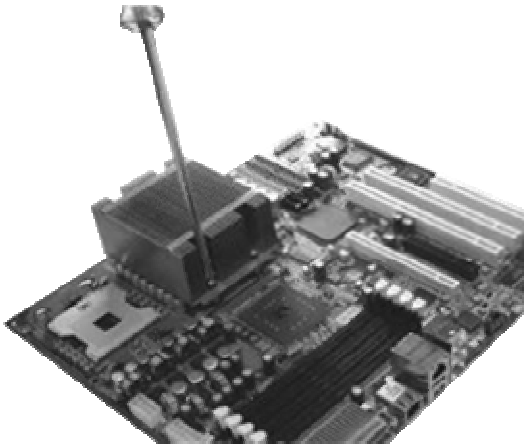
- ✓ **Step 9--Apply all of the TIM in the applicator to the center of the square heat spreader plate in the middle of the CPU. Do not spread the TIM around. When you place the heatsink on top of the CPU the material will disperse evenly.**

Apply all of the thermal interface material to the center of the processor heater spreader plate

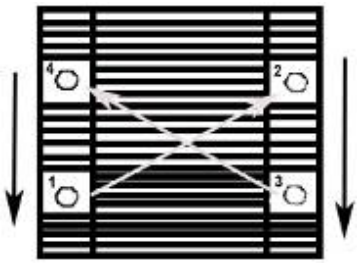


Important
When you only place ONE Intel Xeon processor, please put on the position of CPU0.

✓ **Step 10-- Position the CPU HeatSink on the top; screw it to the motherboard and finish the installation**

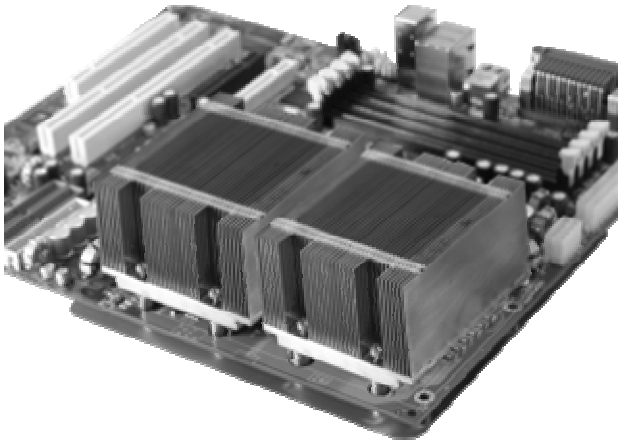


Please follow the below direction to drive in four screws.



Important
Please gently treat mainboards while screwing the heatsink.

✓ **Step 11—Repeat the above steps, and make two processors and heatsinks onto the CPU0 and CPU1 sockets.**



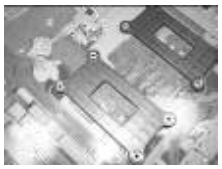
Important
The CEK is much heavier (0.8kg) than the previous heatsink. In order to give the motherboard the best protection, IWILL uses a unique backplate to sustain the mass of CEK.

Heatsink Installation Notice

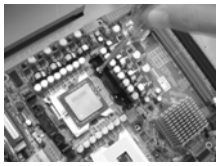
From the third party heatsink

--The rim of heatsink has a fillister, and it needs the retention to fasten it.

1. **Put the attached CPU plastic plate to the back of this motherboard**



2. **Screw Retention Module on top of this motherboard**



3. **Put CPU HeatSink on the top and finish the installation**

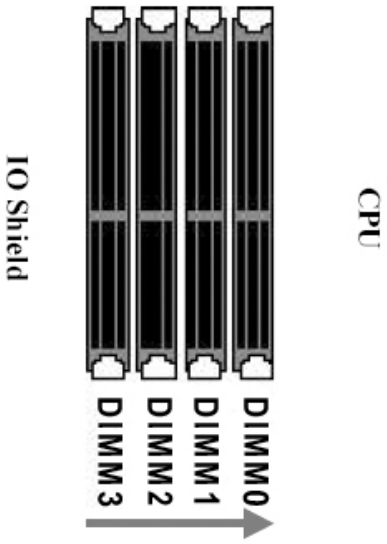
Memory Installation Procedure

Installing Memory

This Mainboard uses Registered DDR2 Memory with ECC only. Please be aware of the difference between DDR and DDR2. DDR modules will NOT compatible with DDR2 slots. Don't plug DDR modules into DN800-SLI memory slots.

IMPORTANT

- Before buying DDR2 (Double Data Rate 2) DIMMs for use with the Mainboard, it is recommended that you consult your local reseller for the best and most compatible memory to use.
- This Mainboard only supports Registered DDR2 compliant modules.
- To ensure compatibility, only use DIMM pairs of the same exact type and size and made by the same company.

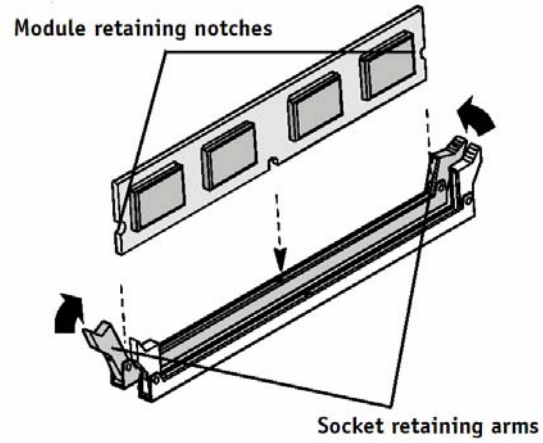


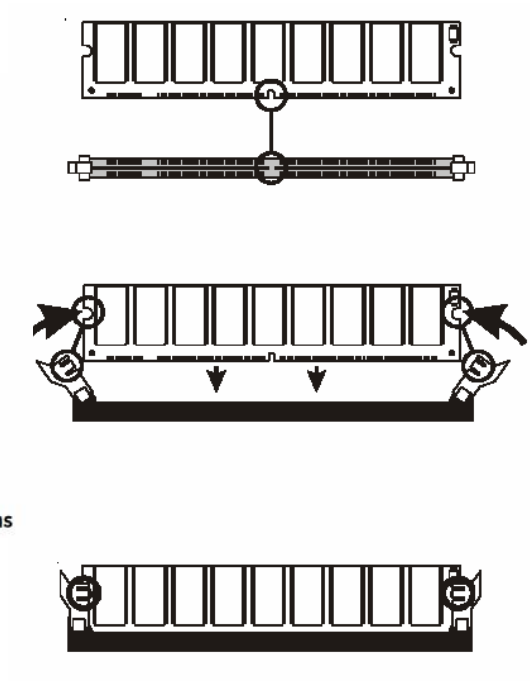
One DDR2 Module	DIMM 3(1)
Two DDR2 Modules	DIMM 3, 2
Four DDR2 Modules	DIMM 3, 2; 1, 0

(1) We strongly recommend that you always install a pair of DDR2 memory in order to take the full advantage of dual channel.

This section outlines how to install Registered DDR2 DIMMs into the Mainboard.

1. Locate the Memory Bank on the Mainboard, where you will be installing the DIMMs.
2. Make sure the DIMM's pins are facing down.
3. Insert the module into the DIMM socket and press down evenly on both ends firmly until the DIMM module is securely in place. (The tabs of the DIMM socket will close-up to hold the DIMM in place when the DIMM is properly installed on the socket's bottom.)





4. Repeat step 1 to step 3 for all additional DIMM modules.

Installing Expansion Cards

DN800-SLI has the PCI-Express and PCI slots that can be used for any expansion cards, such as LAN, SCSI, or Riser cards. DN800-SLI provides two PCI-Express slots for the high-end expansion card choices. Please be aware of the difference between the PCI-Express and PCI or AGP slots. Before you install any expansion cards, please read carefully the instruction provided by the card manufacturers.

The procedures of installation method

1. Insert the PCI card into the correct slot on the Mainboard, pushing down with your thumbs evenly on both sides of the card.
2. Secure the card on the slot with the screw you removed above.
3. Assign IRQs for PCI expansion card: An IRQ number is automatically assigned to PCI expansion card. In the PCI bus design, the BIOS automatically assigns an IRQ to a PCI slot that contains a card requiring an IRQ.

Important

You can follow the below chart to plug your PCI-Express Expansion Card.

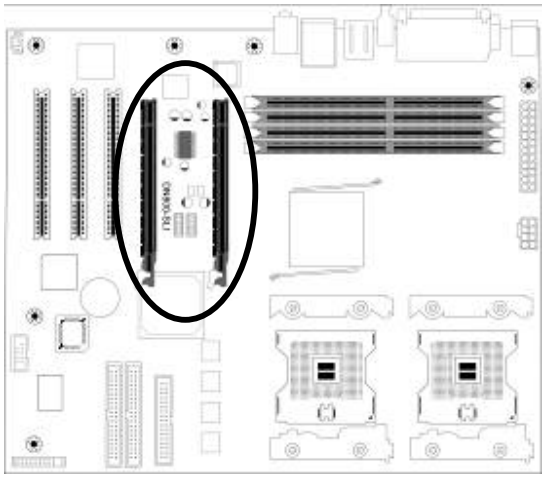
Card Interoperability

Slot / Card	x16
x1	Yes
x4	Yes
x8	Yes
x16	Yes

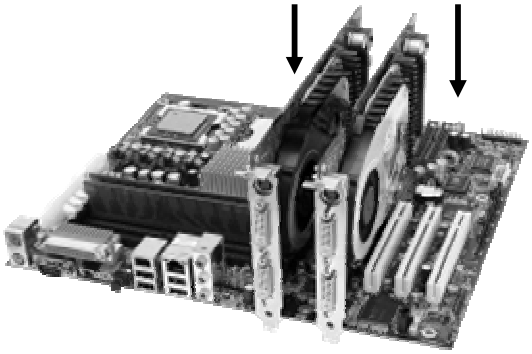
Supporting SLI Technology

DN800-SLI specially supports NVIDIA® SLI™ (Scalable Link Interface) multi-GPU technology. This technology takes advantage of the increased bandwidth of the PCI Express™ bus architecture, and features intelligent hardware and software solutions that allow multiple GPUs to efficiently work together to deliver earth-shattering performance. To work the SLI technology, you have to prepare:

1. IWILL DN800-SLI
2. Two SLI-Ready graphics cards
3. NVIDIA SLI Connector



DN800-SLI provides two PCI-Express x16 slots. It will fully support NVIDIA® SLI™ technology.

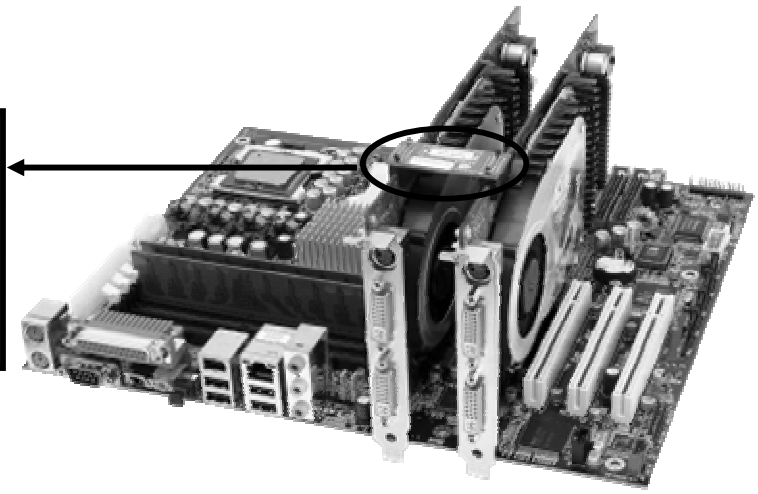


Install two cards that contain a qualified NVIDIA PCI Express GPU with the NVIDIA SLI connector on the two PCI-Express x16 slots.

You have to use connector to connect two NVIDIA-based PCI Express graphics cards.

Completion

Please put the connector onto the both sides of graphics card's fingers.



Important

DN800-SLI provides a PCI-Express x16 slot for graphic use. It provides the higher performance and greater bandwidth than the traditional AGP slot. DN800-SLI does not support AGP slot, so please choose the graphic card with PCI-Express interface.

Warning

Please completely power OFF your power supply when adding or removing any expansion cards or other system components. Failure to do so may cause severe damage to both your Mainboard and expansion cards.

Powering on your System

Follow these instructions to power on the computer after you have installed the Mainboard and all system devices.

1. Be sure that all switches are off (in some systems, Off is marked by "O").
2. After double-checking all jumper settings and connections, close the system chassis cover.
3. Connect the power cord to the power cord connector located on the power supply at the back of your system chassis and plug the power cord into a power outlet that is equipped with a surge protector.
4. Turn on your devices in the following order:
   - Monitor
   - System power

   For power supplies, you need to switch On the power supply, then press the:

1. Power switch on the front of the chassis the first time you start up the system.
2. The power LED on the front panel of the system case will light up. For power supplies, the system LED will light up when the power switch is pressed. The monitor LED may light up after the system's LED if it complies with "Green" standards or if it has a power standby feature. The system will first run its "power-on" tests. While the tests are running, additional messages will appear on the screen. If you do not see anything on the screen within 30 seconds from the time you turn on the power, the system may have failed a power-on test. Re-check your jumper settings and connections. Contact your retailer/dealer for assistance if everything else fails.
3. During power-on, hold down <Del> to enter BIOS setup. Follow the instructions in BIOS for further setup information.

Chapter 4 BIOS Setup

BIOS Setup

This chapter discusses the AMIBIOS Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration.

The BIOS is the Basic Input / Output System used in all IBM PC, XT, AT, and PS/2 compatible computers. The AMIBIOS flash chip stores the system parameters, such as type of disk drives, video displays, etc. in the CMOS. When the computer is turned off, a back-up battery provides power to the BIOS flash chip, enabling it to retain system parameters. Each time the computer is powered-on the computer is configured with the values stored in the BIOS ROM by the system BIOS, which gains control at boot-up.

The AMIBIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

STARTING THE BIOS SETUP

The AMIBIOS is immediately activated every time you power on the system. The BIOS reads the system information contained in the CMOS and begins the process of checking the system and configuring it. After configuring the system, the BIOS will follow the Boot Order to seek out an operating system. The BIOS then turns control of the system over to the operating system.

The CMOS information that determines the system parameters may be changed by entering the BIOS Setup utility.

1. Power on the System.

   Note: Normally, the only visible POST (Power On Self Test) routine is the memory test.

2. As the memory is being tested, you can access the BIOS Setup Utility by pressing the <Del> key when “Press <Del> to enter SETUP” appears briefly at the bottom of the screen.

From the main menu of the BIOS Setup Utility, you can access the other setup screens, such as the Security and Power menus.

Using the BIOS Setup Utility

Navigating through the BIOS Setup Utility is straightforward. Use the arrow keys to highlight items, press <Enter> to select items in menus, and press <Esc> to quit. The following table provides more details about how to navigate in the Setup program using the keyboard.

Up ArrowKey	Move to the previous item
Down Arrow Key	Move to the next item
Left Arrow Key	Move to the previous menu
Right Arrow Key	Move to the next menu
<Esc> key	In the Submenu: Exit the submenu. In the BIOS main menu: Jump to the Exit Menu
<Enter> Key	Select the highlighted item. When available, a pop-up list will display for you to select the item value or select a submenu
<PgUp> Key	Previous page on Scrollable menus or Jump to the first interactive item listed
<PgDn> Key	Next page on Scrollable menus or Jump to the last interactive item listed
<F1> Key	General Help on Setup navigation keys.
<F2>/<F3> Key	Change Colors
<F7> Key	Discard Changes
<F8> Key	Load Failsafe Defaults
<F9> Key	Load Optimal Defaults
<F10> Key	Save and Exit
Home	Go to Top of Screen
END	Go to Bottom of Screen
ESC	Exit

IMPORTANT

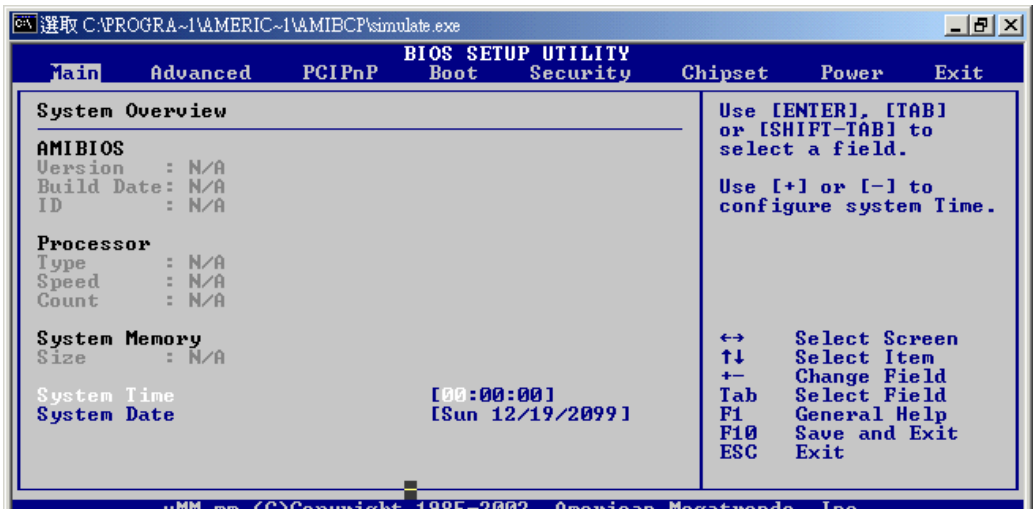
The BIOS does NOT automatically save values that you have modified. If you do not save your values before you exit the BIOS Setup Utility, all your changes will be lost.

If after making and saving system changes with the BIOS Setup Utility, you discover that your computer is no longer able to boot, the AMIBIOS supports an override, which will reset your system to the Failsafe defaults. If that fails, it is possible to manually clear the present CMOS information through the "Clear CMOS Header" on the motherboard (Refer to Jumper Settings for more information).

The best advice is to ONLY alter settings that you thoroughly understand. The default settings have been carefully chosen by AMIBIOS to provide the maximum system performance and reliability. Even a slight change to the chipset setup may cause potential and unpredictable failure to the system.

Main Menu

This is the first screen that is displayed when you enter the BIOS Setup Utility. Each tab lined on the top of the screen represents each different menu. The following picture shows the main menu. Main menu shows the information of BIOS version, date and ID, processor type, speed and count, and system size. In addition, system time and date is adjustable using + / - key or number keys.

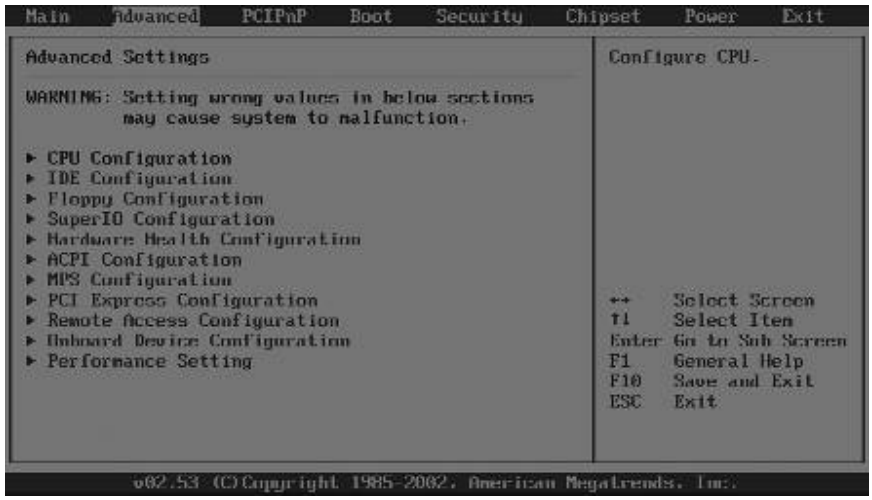


Important

Due to the different BIOS versions, this BIOS screen will possibly be not exactly the same with what you see while you are setting up DN800-SLI BIOS. Please read the right description column carefully on your BIOS screen. For any further setup questions, please contact with our Technology Support staff.

Advanced Menu

You can make these modifications on the Advanced Menu. Select the Submenus to modify those settings.

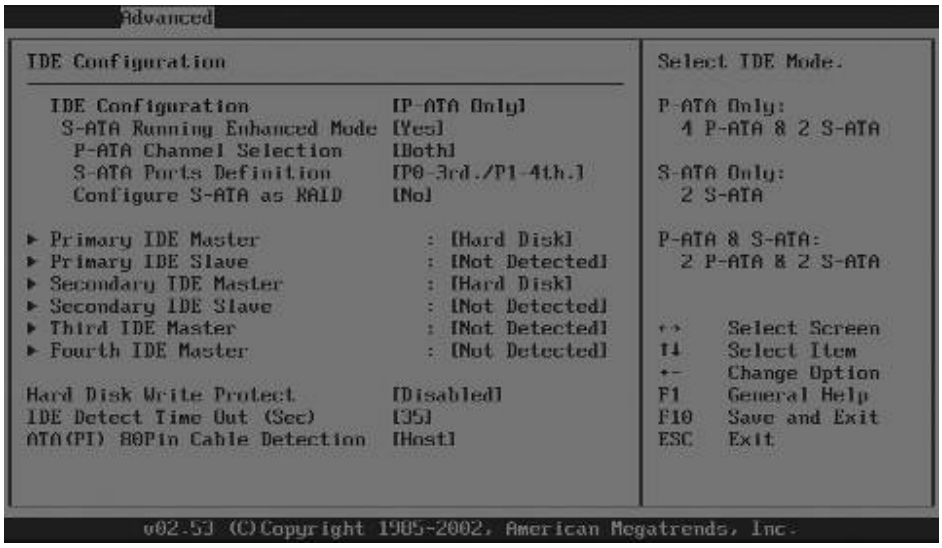


Feature	Option	Description
CPU Configuration	Ratio CMOS Setting VID CMOS Setting	Sets the ratio between CPU Core and the FSB Frequency.
Floppy Configuration	Disabled 360 KB, 5 1/2” 1.2 MB, 5 1/2” 720 KB, 3 1/2” 1.44 MB, 3 1/2” 2.88 MB, 3 1/2”	Select the type of floppy drive connected to the system
Hardware Health Configuration	Hardware Health Event Monitoring	Enables Hardware Health Monitoring Device.
ACPI Configuration	ACPI 2.0 Features	Enable or disable ACPI function
MPS Configuration	MPS Revision	Select MPS Revision
PCI Express Configuration	✓ Active State Power-Management ✓ PCIe Jitter Tolerance ✓ PCIe Compliance mode	Enable/Disable PCI Express power states
Remote Access Configuration	Remote Access	Select Remote Access type

.

IDE Configuration Submenu

You can also setup your PCI IDE controller on Advance menu.


Advanced
IDE Configuration
IDE Configuration [P-ATA Only]
S-ATA Running Enhanced Mode [Yes]
P-ATA Channel Selection [Both]
S-ATA Ports Definition [P0-3rd./P1-4th.]
Configure S-ATA as RAID [No]
▶ Primary IDE Master : [Hard Disk]
▶ Primary IDE Slave : [Not Detected]
▶ Secondary IDE Master : [Hard Disk]
▶ Secondary IDE Slave : [Not Detected]
▶ Third IDE Master : [Not Detected]
▶ Fourth IDE Master : [Not Detected]
Hard Disk Write Protect [Disabled]
IDE Detect Time Out (Sec) [35]
ATA(PI) 80Pin Cable Detection [Host]
Select IDE Mode.
P-ATA Only:
4 P-ATA & 2 S-ATA
S-ATA Only:
2 S-ATA
P-ATA & S-ATA:
2 P-ATA & 2 S-ATA
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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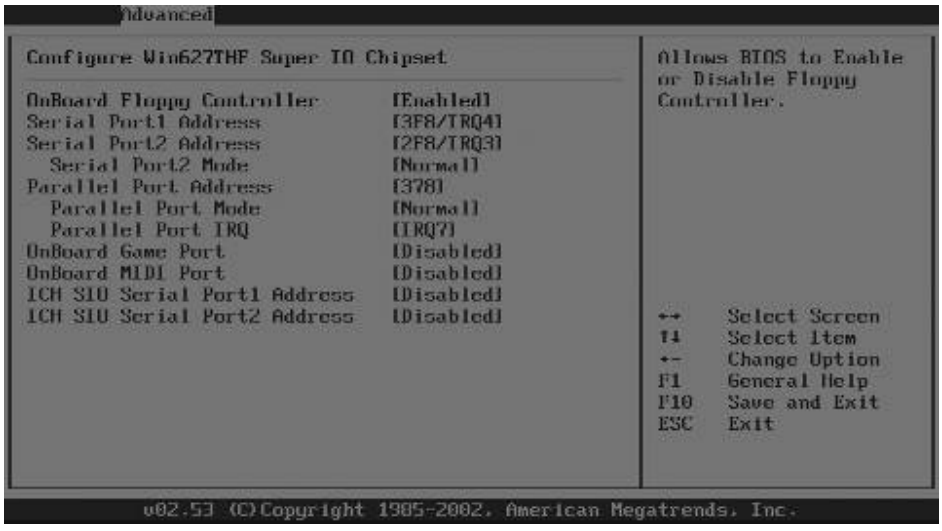
SuperIO Configuration Submenu

You can also setup your floppy controller or game port on this menu.


Advanced
Configure Win627THF Super IO Chipset
OnBoard Floppy Controller [Enabled]
Serial Port1 Address [3F8/IRQ4]
Serial Port2 Address [2F8/IRQ3]
Serial Port2 Mode [Normal]
Parallel Port Address [378]
Parallel Port Mode [Normal]
Parallel Port IRQ [IRQ7]
OnBoard Game Port [Disabled]
OnBoard MIDI Port [Disabled]
ICH SIO Serial Port1 Address [Disabled]
ICH SIO Serial Port2 Address [Disabled]
Allows BIOS to Enable or Disable Floppy Controller.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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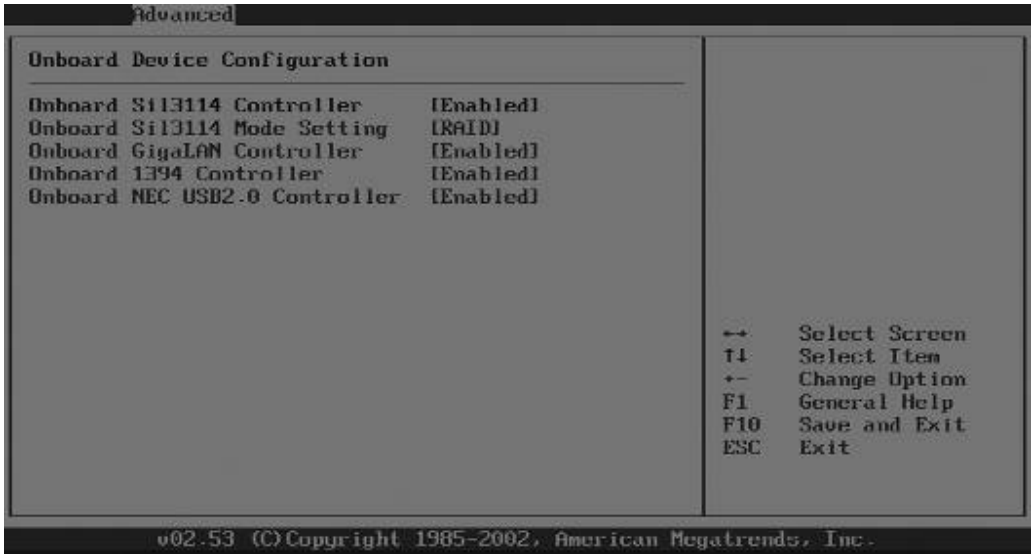
Onbaord Configuration Submenu

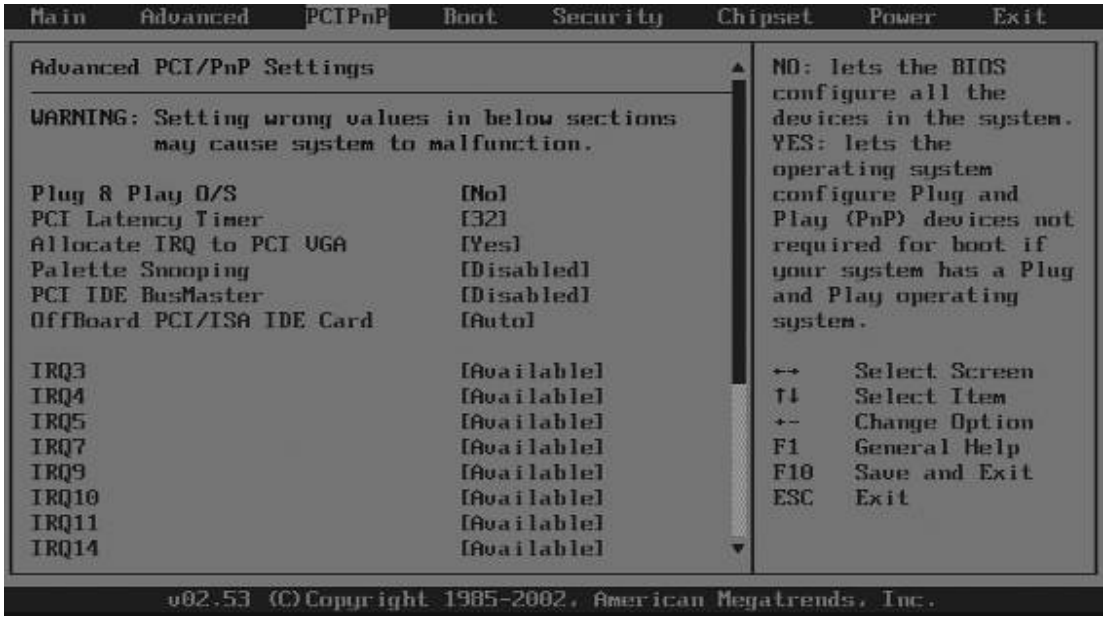
You can set up your SATA, LAN, USB 2.0 and IEEE-1394 controllers at this menu.



Performance Setting Submenu

You can adjust your DDR2 memory voltage at thus menu.

PCIPnP Menu


Main Advanced PCIPnP Boot Security Chipset Power Exit
Advanced PCI/PnP Settings
WARNING: Setting wrong values in below sections may cause system to malfunction.
Plug & Play O/S [No]
PCI Latency Timer [32]
Allocate IRQ to PCI VGA [Yes]
Palette Snooping [Disabled]
PCI IDE BusMaster [Disabled]
OffBoard PCI/ISA IDE Card [Auto]
IRQ3 [Available]
IRQ4 [Available]
IRQ5 [Available]
IRQ7 [Available]
IRQ9 [Available]
IRQ10 [Available]
IRQ11 [Available]
IRQ14 [Available]
NO: lets the BIOS configure all the devices in the system. YES: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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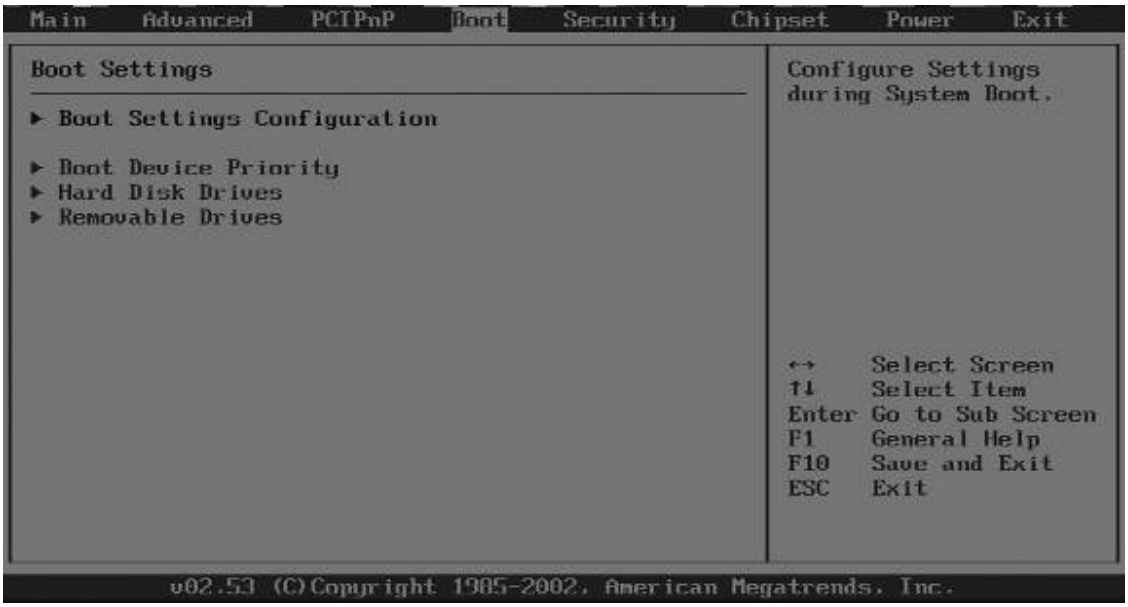
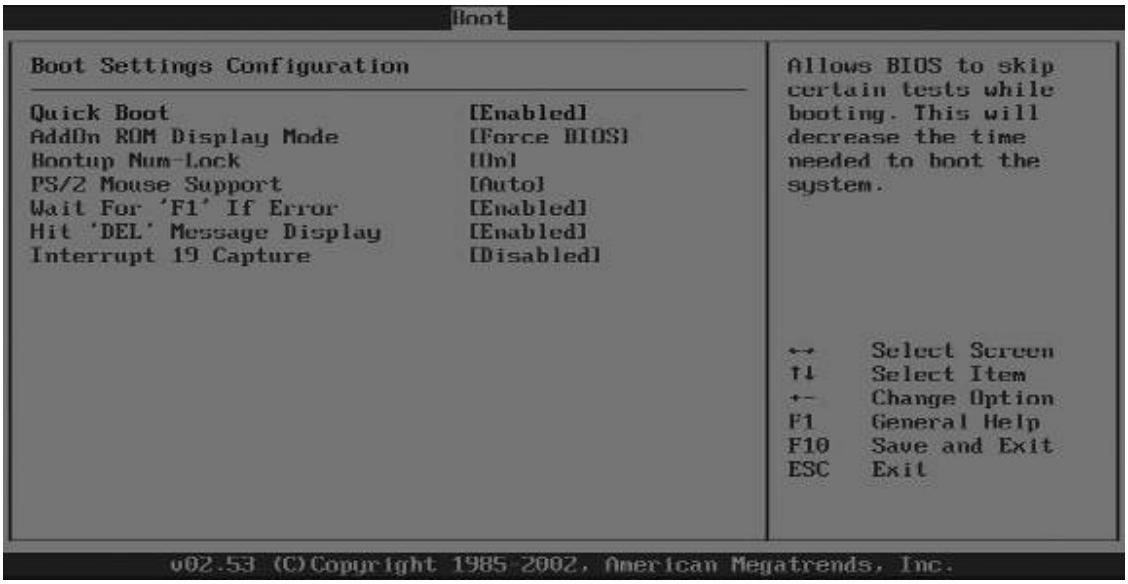
Feature	Option	Description
Plug & Play O/S	Yes No	Yes: lets the O/S configure PnP devices not required for boot if your system has a Plug and Play O/S
PCI Latency Timer	32, 64, 96, 128, 160, 192, 224, 248	Value in units of PCI clocks for PCI device latency timer register
Allocate IRQ to PCI VGA	Yes No	Yes: Assign IRQ to PCI VGA card if card requests IRQ No: Doesn't assign IRQ To PCI VGA cars even if card requests IRQ
Palette Snooping	Disabled Enabled	Enabled: informs the PCI devices that an ISA graphics device is installed in the system so the card will function correctly
PCI IDE BusMaster	Disabled Enabled	Enabled: BIOS uses PCI busmastering or reading/writing to IDE drives
Offboard PCI/ISA IDE card	Auto PCI Slot1 PCI Slot2 PCI Slot3 PCI Slot4	Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card.
IRQ3,4,5,7,9,10,11,14	Available Reserved	Available: specified IRQ is available to be used by PCI/PnP devices Reserve: specified IRQ is reserved for use by legacy ISA devices

Boot Menu



Feature	Description
Boot Device Priority	Specify the boot device priority sequence
Hard Disk Drives	Specify the boot device priority sequence from available hard drives
Removable Drives	Specify the boot device priority sequence from available removable drives

Boot Setting Configuration Submenu


Boot
Boot Settings Configuration
Quick Boot [Enabled]
AddOn ROM Display Mode [Force BIOS]
Bootup Num-Lock [On]
PS/2 Mouse Support [Auto]
Wait For 'F1' If Error [Enabled]
Hit 'DEL' Message Display [Enabled]
Interrupt 19 Capture [Disabled]
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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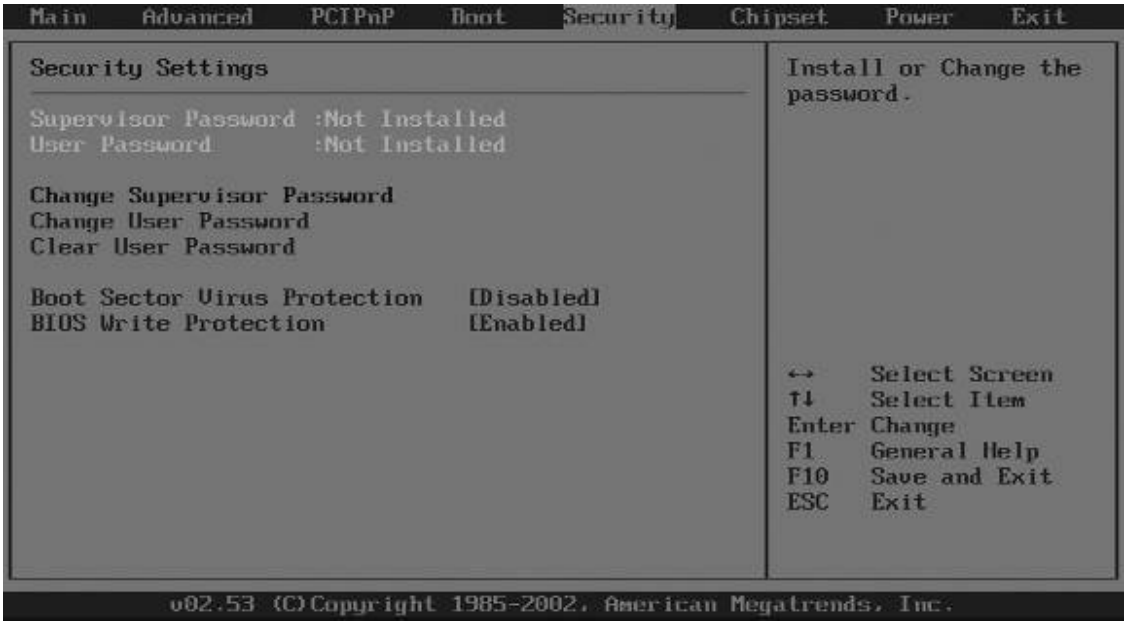
Feature	Option	Description
Quick Boot	Disabled Enabled	Allows BIOS to skip tests while booting
AddOn ROM Display Mode	Force BIOS Keep Current	Set display mode for option ROM
Bootup Num-Lock	Off On	Select power on state for NumLock
PS/2 Mouse Support	Disabled Enabled	Select support for PS/2 mouse
Wait for "F1" if error	Disabled Enabled	Wait for F1 key to be pressed if error occurs
Hit 'DEL' Message Display	Disabled Enabled	Display "Press DEL to run Setup" in POST
Interrupt 19 Capture	Disabled Enabled	Enabled: allows option ROMs to trap interrupt 19

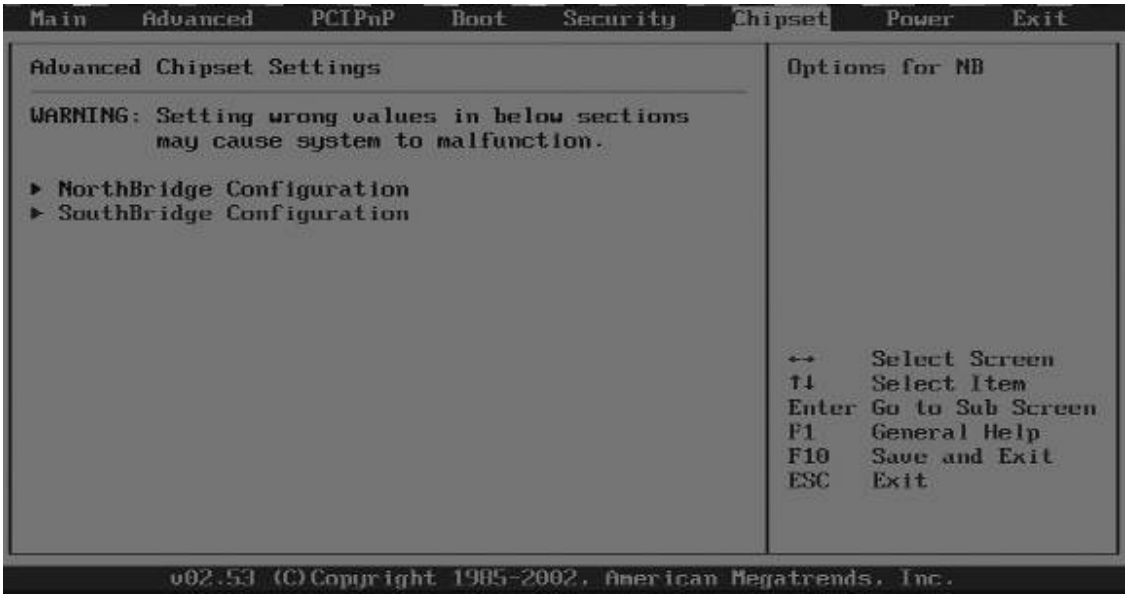
Security Menu



Feature	Option	Description
Change User Password		Install or change the password
Clear User Password		Immediately clears the User password
Boot Sector Virus Protection	Disabled Enabled	Enable/Disable Boot Sector Virus Protection

Chipset Menu

There are three submenus inside Chipset menu: NorthBridge Configuration, SouthBridge Configuration and AGP Configuration.


Main Advanced PCIPnP Boot Security Chipset Power Exit
Advanced Chipset Settings
WARNING: Setting wrong values in below sections may cause system to malfunction.
▶ NorthBridge Configuration
▶ SouthBridge Configuration
Options for NB
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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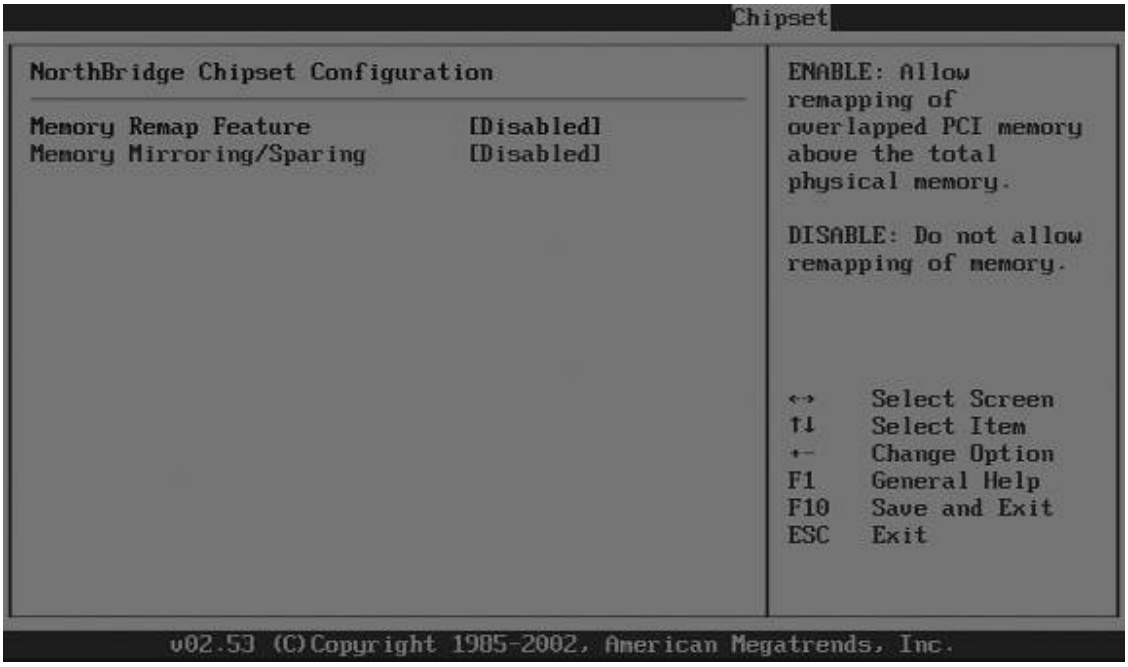
NorthBridge Configuration Submenu


Chipset
NorthBridge Chipset Configuration
Memory Remap Feature [Disabled]
Memory Mirroring/Sparing [Disabled]
ENABLE: Allow remapping of overlapped PCI memory above the total physical memory.
DISABLE: Do not allow remapping of memory.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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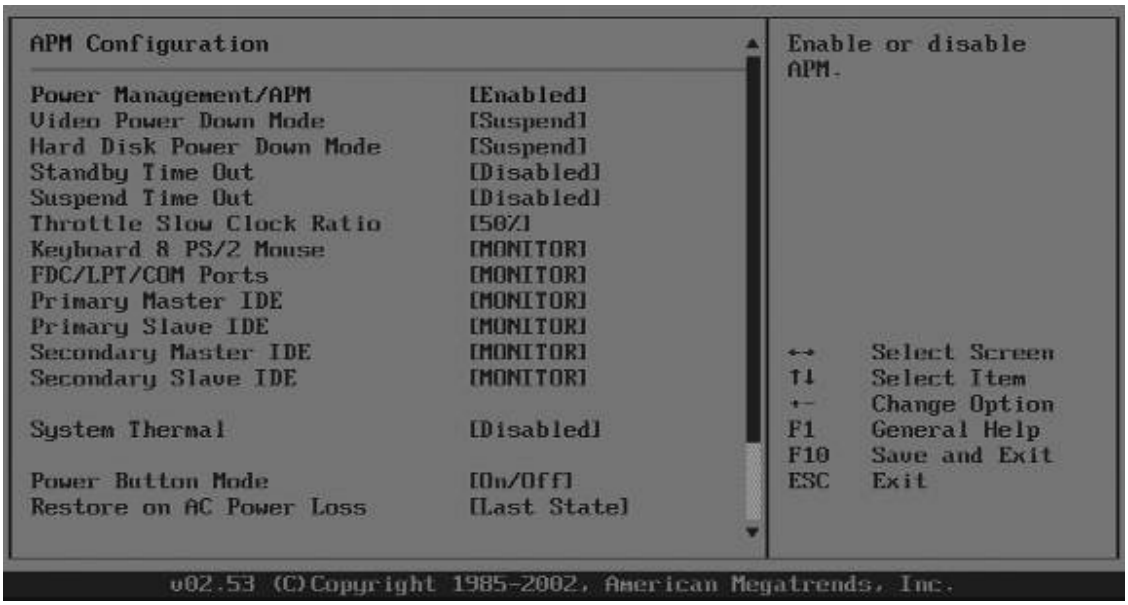
Power Menu

You can setup the system power management function at this menu.


APM Configuration
Power Management/APM [Enabled]
Video Power Down Mode [Suspend]
Hard Disk Power Down Mode [Suspend]
Standby Time Out [Disabled]
Suspend Time Out [Disabled]
Throttle Slow Clock Ratio [50%]
Keyboard & PS/2 Mouse [MONITOR]
FDC/LPT/COM Ports [MONITOR]
Primary Master IDE [MONITOR]
Primary Slave IDE [MONITOR]
Secondary Master IDE [MONITOR]
Secondary Slave IDE [MONITOR]
System Thermal [Disabled]
Power Button Mode [On/Off]
Restore on AC Power Loss [Last State]
Enable or disable APM.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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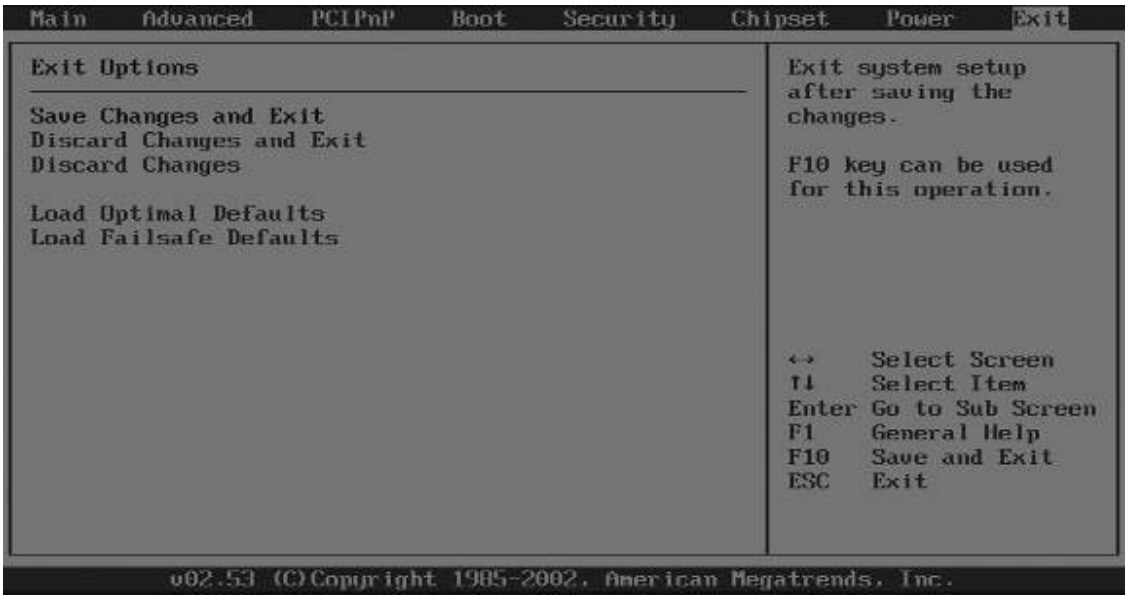
Exit Menu


Main Advanced PCIPnP Boot Security Chipset Power Exit
Exit Options
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Load Optimal Defaults
Load Failsafe Defaults
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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Feature	Description
Save Changes and Exit	Exit system setup after saving the changes. F10 key can be used for this operation
Discard Changes and Exit	Exit system setup without saving the changes. ESC key can be used for this operation
Discard Changes	Discard changes done so far to any of the setup questions. F7 key can be used for this operation
Load Optimal Defaults	Load optimal default values for all the setup questions. F9 key can be used for this operation
Load Failsafe Defaults	Load Failsafe default values for all the setup questions. F8 key can be used for this operation

Chapter 5 OS and Drivers Installation

OS Installation

DN800-SLI can be run on **Windows 2000, XP, and Linux (SuSe64, RedHat, and Turbo)** system.

DN800-SLI supports the Intel Extended Memory 64 bit Technology. In order to run the full advantage of 64 bit, you should install OS with 64 bit architecture.

For the 64 bit OS information, you can go to the below website to find out more information.

- ✓ Contact Microsoft for additional details.
  http://www.microsoft.com/presspass/press/2004/feb04/02-17ExtendedTechnologyPR.asp.

- ✓ Contact Red Hat for additional details.
  http://rhn.redhat.com

- ✓ Contact SuSE for additional details.
  http://www.suse.com/us/partner/become_partner/technology_partner.html

Drivers Installation

Inside the motherboard package, you could find a Power installation CD. It contains the required drivers.

Inside the CD, you can find the free software “Acrobat Reader” to help you read our pdf.file. Besides, this user’s manual will also be placed inside this CD-ROM.

Please click the Driver Installation option, you can choose below these drivers to download:

1. Intel INF Driver
2. Audio Driver
3. Intel LAN Driver guide
4. USB 2.0 Driver (for Windows 2000)
5. Silicon Image 3114 Controller SATA Installation

If you have any question about how to install operation system, please check on IWILL website www.iwill.net or contact with our Technology Supporters. We also suggest you visit our website for downloading the latest BIOS and drivers regularly.